

## PATENT SPECIFICATION

666,501



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## COMPLETE SPECIFICATION

## Self-Sealing Wrapping Paper

I, STANLEY GUSTAV DEHN, M.A., a British Subject, Chartered Patent Agent, of Kingsway House, 103, Kingsway, London, W.C.2, do hereby declare the nature of this invention (a communication to me from The Munising Paper Company, a Corporation duly organized under the laws of the State of Ohio, of 135, South La Salle Street, Chicago, State of Illinois, United States of America), and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a wrapping paper especially adapted for wrapping small articles and more particularly to a quick-sealing, moisture-proof, wrapping paper for wrapping a comestible to maintain its moisture content.

The self-adhering materials which may be used in accordance with the present invention are known materials, and are usually termed "cohesive, substantially non-adhesive" materials. For convenience, these materials will be similarly referred to herein.

According to the present invention therefore there is provided a moisture-proof sheet of self-sealing wrapping material adapted completely to encase an article and thereby seal the same against outside moisture, and comprising a thin flexible paper sheet normally pervious to moisture and provided on one surface with a cohesive substantially non-adhesive coating; characterized in this, that the paper sheet is provided on its other surface with an exposed comparatively thin flexible wax film coating imparting moistureproof properties thereto, and that said cohesive substantially non-adhesive coating on the one surface of the paper consists of a flexible dried wax-free film essentially made of synthetic or natural rubber in an unvulcanised state, said last mentioned film covering the complete said one surface of the sheet and being substantially dry and non-tacky and yieldingly self-adhering when portions thereof

are brought into engagement, but being non-adhesive to such surfaces as wood, glass and metal, the said non-tacky self-adhering film cooperating with said wax coating in moisture-proofing said paper sheet.

The combination of a flexible water-proof coating on one side of a flexible paper sheet and of a cohesive, substantially non-adhesive coating on the other provides a wrapping paper for foodstuffs having desired moisture-proof properties and a versatility and ease of use not heretofore present in any of the prior art wrapping papers, insofar as I am aware. The wrapping paper of the present invention may be manipulated readily in sealing relationship about foodstuff or dishes or other articles containing the same without the aid of heat or other extraneous expedients which entail skill and are inconvenient for the user.

In its preferred aspects the wrapping paper of the present invention consists of a flexible, calendered paper sheet, one surface of which is coated with a flexible film or coating of wax and the other with a film or coating of a cohesive, substantially non-adhesive rubber such as the film or coating of coalesced rubber particles deposited from a dried coating of unvulcanized natural rubber latex. While other known cohesive, substantially non-adhesive materials may be used as the self-adherent coating for the wrapping paper of the present invention, such as unvulcanized latex, sold under the Registered Trade Mark Buna S, the latices of other unvulcanized synthetic rubbers, or plasticized polyvinyl acetate compositions, for example, the coating of unvulcanized natural rubber deposited from a latex of the same is preferred because such a coating cooperates with the wax film in imparting the property of moisture-proofness to the paper sheet, to an extent not obtainable with other known cohesive, substantially non-adhesive materials.

A suitable cohesive, substantially non-

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adhesive film in accordance with the preferred aspects of the present invention may be formed by applying to the paper sheet a coating of a conventional, commercially available, ammonia-stabilised, unvulcanized natural rubber latex, and drying the same. The latex may or may not contain an anti-oxidant for the rubber, as desired. The film of rubber deposited from this latex inherently has the desired cohesive, substantially non-adhesive properties, although, perhaps, not always to the desired extent.

Desired cohesive, substantially non-adhesive properties of a film deposited from a latex of unvulcanized natural rubber may be obtained by compounding the latex with controlled amounts of a water-soluble colloid which is compatible with the latex and which serves to destroy adhesiveness and tackiness in the dried latex, and a small amount of a water-soluble, comparatively non-volatile hygroscopic substance or plasticizer. A typical known latex composition is made by mixing a commercial unvulcanized natural rubber latex of about a 35% solids content with about 25% of volume of a stiff tapioca starch paste or a water-soluble casein paste, and about 2% to 5% by volume of glycerine.

Any suitable wax or wax-like material such as paraffin wax, beeswax, montan wax, carnauba wax, synthetic waxes such as the high melting point synthetic wax sold by Glyco Products Co., Inc., under the trade name Acrawax C, and the like may be used as the moisture-proof coating for the wrapping paper of the present invention. This coating may be applied to the paper sheet in any desirable manner in aqueous emulsion form, for example, as is well understood. Other suitable moisture-proof materials such as the known plastic compositions of wax or waxes with rubber may also be used.

The present invention will be fully understood from the foregoing and from the following description of the invention and of some uses thereof, as illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of a coated sheet of paper embodying the present invention;

Figure 2 is an enlarged cross-sectional view thereof taken along the line 2—2 of Figure 1;

Figure 3 illustrates the use of the coated paper of Figure 1 for wrapping a sandwich, the latter being shown as resting on the cohesive surface of the paper;

Figure 4 is a cross-sectional view of the wrapped sandwich taken substantially along the line 4—4 of Figure 3;

Figure 5 is a similar cross-sectional view taken substantially along the line 5—5 of Figure 4;

Figure 6 illustrates the use of the paper of Figure 1 for wrapping foodstuffs which are contained in an article such as a dish;

Figure 7 depicts the package formed by wrapping the paper about the foodstuff in the dish in accordance with the present invention; and

Figures 8 and 9 illustrate modified embodiments of the coated sheets of the present invention.

In the drawings the numeral 10 designates a flexible paper sheet, the numeral 11 a wax or wax with rubber water-proof coating, and the numeral 12 the cohesive, substantially non-adhesive coating. As pointed out above the preferred cohesive, substantially non-adhesive coating is formed by drying an unvulcanized natural rubber latex upon the surface of a sheet of paper.

In the use of this coated paper to wrap comestibles, for example a sandwich, the sandwich indicated by the numeral 15, is placed upon the cohesive coating of the paper sheet adjacent one end and within the boundaries thereof, as illustrated in Figure 3. The other end of the coated sheet is then folded over the sandwich so that marginal portions of the cohesive coating of the folded sheet are in opposed relationship. A light pressure is then applied to the opposed surfaces of the cohesive coating by running the fingers lightly around the marginal portions of the folded paper, thereby completely sealing the sandwich within a moisture-proof package illustrated in Figures 4 105 and 5.

In the use of the paper of the present invention to wrap foodstuff contained within a dish or other article, the article containing the foodstuff, indicated by the numeral 17, is placed upon the cohesive coating of the paper, as shown in Figure 6, and the free ends of the paper are pulled up around the foodstuff and bunched together with the cohesive coating surfaces in opposing relationship, thereby enclosing the foodstuff in a water-proof package which may be placed in a refrigerator until ready for use.

Due to the moisture-proof characteristics of the paper sheet of the present invention, foodstuffs wrapped within this sheet may be kept within a refrigerator for substantial periods of time, without desiccation or decay and without acquiring the flavors of other foodstuffs. The contents of the package may be readily removed either by cutting the wrapper or by pulling it apart at the joining surfaces. In the latter case, if care is exercised in pull-

ing the surfaces apart, the sheet may be re-used.

The coated paper sheet referred to above has the cohesive, substantially non-adhesive coating all over one surface thereof and the wax over the other surface and these sheets may be stacked one upon the other without adherence, by placing the cohesive coating of one sheet in contact with the wax coating of another.

The versatility of the coated sheets to wrap various articles may be increased by applying additional zones of the cohesive coating on the side of the sheet containing the wax or waxes with rubber waterproof coating, as illustrated in Figures 8 and 9. In making these sheets the paper is coated on one side throughout the area thereof with a cohesive coating as before and a similar coating is applied to the margins or other desired portions of the opposite side. The wax is then applied to the paper sheet between the areas delineated by the zones of cohesive coating.

In Figure 9, the cohesive coating 18 is applied all over the surface of one side of the paper sheet and, additionally along the longitudinal margins 19 on the opposite sides. The wax coating 20 is applied to the paper over the area between the zones of cohesive coating. In the embodiment of the invention illustrated in Figure 8, there are additional zones of cohesive coating 21 which extend between the marginal zones 19 of adhesive coating, at intervals throughout the length of the sheet.

For convenience of the user any of the coated sheets described above may be vended in the form of a roll of paper, illustrated in Figure 8, and transverse perforations or score lines, illustrated by the score lines 22, may be provided to enable the user to tear a piece of coated paper of the desired length from the roll. Where the paper of the present invention is provided with cohesive coatings on both sides, as in Figures 8 and 9, stacked individual sheets may be interleaved with Holland cloth or other liner material, or the coated paper may be wound on the roll with a liner material (not shown) to pre-

vent the opposed cohesive surfaces from adhering to one another, as is well understood. The use of these liner sheets to prevent adherence is not absolutely essential since the cohesive coatings if stuck together may be pulled apart.

What I claim is:—

1. A moistureproof sheet of self-sealing wrapping material adapted completely to encase an article and thereby seal the same against outside moisture, and comprising a thin flexible paper, sheet normally pervious to moisture and provided on one surface with a cohesive substantially non-adhesive coating; characterized in this, that the paper sheet is provided on its other surface with an exposed comparatively thin flexible wax film coating imparting moistureproof properties thereto, and that said cohesive substantially non-adhesive coating on the one surface of the paper consists of a flexible dried wax-free film essentially made of synthetic or natural rubber in an unvulcanized state, said last mentioned film covering the complete said one surface of the sheet and being substantially dry and non-tacky and yieldingly self-adhering when portions thereof are brought into engagement, but being non-adhesive to such surfaces as wood, glass and metal, the said non-tacky self-adhering film cooperating with said wax coating in moisture-proofing said paper sheet.

2. A self-sealing wrapping material as set forth in claim 1, characterized in this, that the cohesive substantially non-adhesive coating consists of a deposit from an aqueous latex dispersion and contains a minor amount of material selected from the group consisting of starches and caseins.

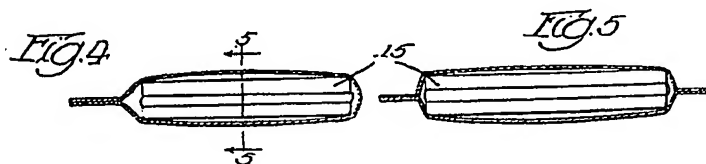
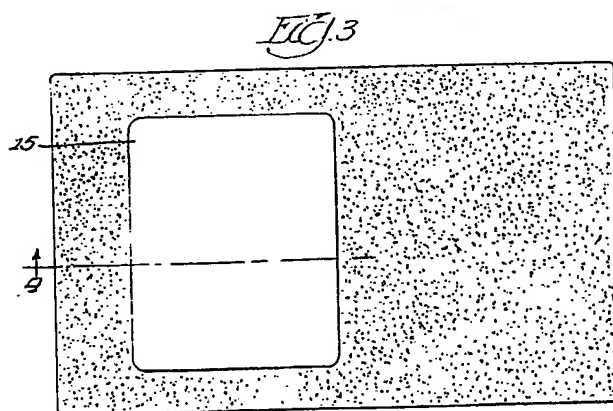
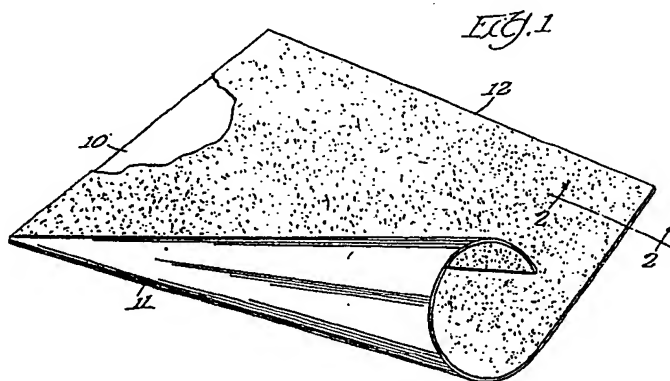
3. A self-sealing wrapping material as set forth in claim 2, characterized in this, that the cohesive substantially non-adhesive coating also contains a hygroscopic substance.

Dated this 17th day of December, 1948.

For the Applicant:  
FRANK B. DEHN & CO.,  
Chartered Patent Agents,  
Kingsway House, 103, Kingsway,  
London, W.C.2.

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copies, price 2s. per copy; by post 2s. 1d. may be obtained.

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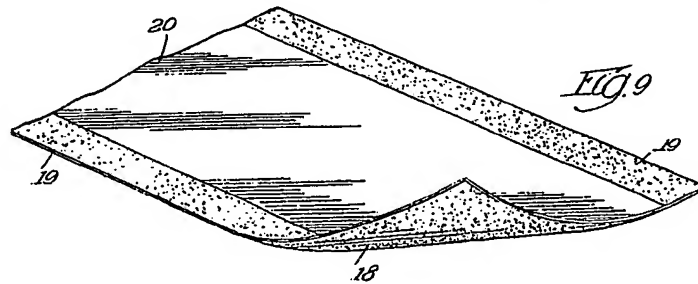
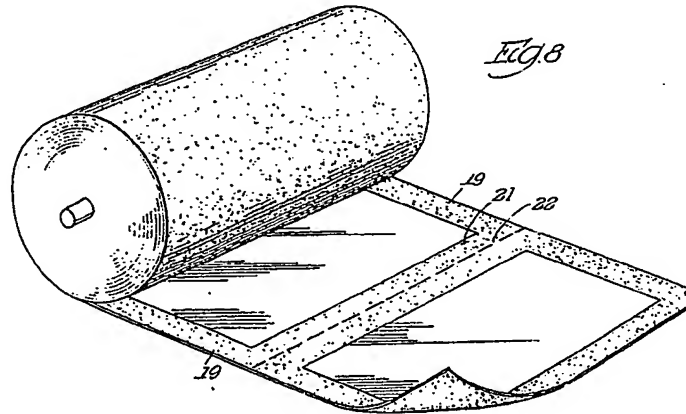


FIG. 6

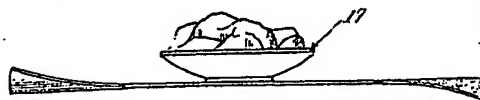


FIG. 7



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